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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/733,259	12/12/2003	Chi-Chang Chang	TOP 346	8662
23995	7590	12/13/2005	EXAMINER	
RABIN & Berdo, PC 1101 14TH STREET, NW SUITE 500 WASHINGTON, DC 20005			CHANG, YEAN HSI	
			ART UNIT	PAPER NUMBER
			2835	

DATE MAILED: 12/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary	Application No.	Applicant(s)	
	10/733,259	CHANG, CHI-CHANG	
	Examiner	Art Unit	
	Yean-Hsi Chang	2835	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12/12/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-11, 13 and 20 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 3-7, 9-13 and 15-16 of U.S. Patent No. 6,947,036 B2 (hereon '036) in view of Nakagawa et al. (US 5,805,417). Patent '036 claims all subject matters as the current application with the supporting member as the cushion member except a heat dissipation module and a fixing member. Nakagawa teaches a motherboard (19) including a heat dissipation module (52) connected to a converter board for dissipating heat generated by the converter board and a fixing screw (69) for fixing the converter board to the heat dissipation module as

shown in fig. 8. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Patent '036 with the heat dissipation module and the fixing screw taught by Nakagawa for dissipating heat generated by the converter board.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakagawa et al. (US 5,805,417).

Nakagawa teaches an electronic device (10, fig. 1) comprising: a liquid crystal display (15), a motherboard (19) including a heat dissipation module (52), a converter board (20), connected to the heat dissipation module (for example, fig. 8) and coupled to the motherboard and the liquid crystal display (inherent features not shown), a fixing member (69) connecting the converter board and the heat dissipation module so that the converter board is fixed on the heat dissipation module, and a cushion member (for example, 66) disposed between the converter board and the heat dissipation module (claim 1); and a first connector (26) disposed on the motherboard, and a second connector (28), corresponding to the first connector, disposed on the converter board (claim 2).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boesch et al. (US 6,570,561 B1) in view of Nakagawa et al.

Boesch teaches an electronic device (10, fig. 1) comprising: a liquid crystal display module (20), a motherboard (24) including a heat dissipation module (36), a converter board (34), connected to the heat dissipation module (fig. 3) and coupled to the motherboard and the liquid crystal display (shown in fig. 4) for converting a first signal from the motherboard to a second signal suitable for use by the liquid crystal display module (shown in fig. 2) (claims 1 and 20); and a first connector (50) disposed on the motherboard, and a second connector (obvious feature not shown), corresponding to the first connector, disposed on the converter board (claim 2); wherein the connectors and the converter board are LVDS type (see col. 3, lines 46-52, since converter 34 is a LVDS board) (claims 3-4); a third connector (not shown) disposed on the liquid crystal display, and a fourth connector (52), corresponding to the third connector, disposed on the converter board, wherein the second signal is transmitted to the liquid crystal display by the third connector connecting to the fourth connector

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(obvious feature) (claim 7); and a cable (54) connecting the third connector and the liquid crystal display (see figs. 2 and 4) (claim 12).

Regarding claim 1, Boesch fails to teach a fixing member connecting the converter board and the heat dissipation module so that the converter board is fixed on the heat dissipation module, and a cushion member disposed between the converter board and the heat dissipation module.

Nakagawa teaches an electronic device (10, fig. 1) comprising: a motherboard (19) having a heat dissipation module (52) and a screw fixing member (69) and through holes (shown in fig. 8, not labeled) for connecting the converter board and the heat dissipation module so that the converter board is fixed on the heat dissipation module, and a cushion member (65) disposed between the converter board and the heat dissipation module. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Boesch with the motherboard taught by Nakagawa for space saving purposes.

Regarding claims 16-19, Nakagawa fails to teach the cushion member being a pad made of plastic material. It would have been obvious to one having ordinary skill in the art at the time the invention was made to select a plastic material for the cushion member of the device of Nakagawa for preventing heat from transferring to the converter board, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use. *In re Leshin*, 125 USPQ 416 (CCPA 1960).

Regarding claims 5-6, 10-11 and 13, Boesch fails to teach the connectors and the converter board being TMDS type and the motherboard being mini-ITX type. It would have been obvious to one having ordinary skill in the art at the time the invention was made to select the converter being made with TMDS type connectors and circuit board, and mini-type motherboard for the device of Boesch, since the TMDS type connectors and circuit board, and mini-type motherboard are well known and off-the-shelf available, for the purposes of lower EMI and space saving.

7. Claims 21-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boesch et al. (US 6,570,561 B1) in view of Nakagawa et al. and Hsu (CN 443548).

Boesch teaches a conversion module (fig. 4) for a liquid crystal display (20) and a motherboard (24) including a heat dissipation module (36) comprising: a converter and board (34), connected to the heat dissipation module (shown in fig. 3), for converting a first signal from the motherboard to a second signal suitable for use by the liquid crystal display (see figs. 2 and 4), a first connector (50, not shown on board 34) disposed on the converter board and coupled to the motherboard (fig. 4), and a second connector (52) disposed on the converter board and coupled to the liquid crystal display, wherein the first signal is transmitted to the converter board and the second signal is transmitted to the liquid crystal display by the first connector and the second connector (see fig. 2) (claim 21); and a cable (54) connecting the liquid crystal display and the second connector (claim 27).

Regarding claims 21 and 28-29, Boesch fails to teach a fixing member connecting the converter board and the heat dissipation module so that the converter board is fixed on the heat dissipation module, and a cushion member disposed between the converter board and the heat dissipation module.

Nakagawa teaches an electronic device (10, fig. 1) comprising: a motherboard (19) having a heat dissipation module (52) and a screw fixing member (69) and through holes (shown in fig. 8, not labeled) for connecting the converter board and the heat dissipation module so that the converter board is fixed on the heat dissipation module, and a cushion member (65) disposed between the converter board and the heat dissipation module. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Boesch with the motherboard taught by Nakagawa for space saving purposes.

Regarding claims 30-33, Boesch in view of Nakagawa fails to teach the cushion member being a pad made of plastic material. It would have been obvious to one having ordinary skill in the art at the time the invention was made to select a plastic material for the cushion member of the device of Nakagawa for preventing heat from transferring to the converter board, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use. *In re Leshin*, 125 USPQ 416 (CCPA 1960).

Regarding claims 23-26, Boesch fails to teach the connectors and the converter board being TMDs type and the motherboard being mini-ITX type. It would have been obvious to one having ordinary skill in the art at the time the invention was made to

select the converter being made with TMDS type connectors and circuit board, and mini-type motherboard for the device of Boesch, since the TMDS type connectors and circuit board, and mini-type motherboard are well known and off-the-shelf available, for the purposes of lower EMI and space saving.

Regarding claim 22, Boesch fails to teach the first connector and the second connector are located at opposite sides of the converter board.

Hsu teaches converter board (24, fig. 1) for an LCD display (30), comprising: a first connector (240) disposed on the converter board and coupled to a motherboard (10), and a second connector (242) disposed on the converter board and coupled to the liquid crystal display (fig. 1). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the converter board of Boesch with the converter board taught by Hsu for a shorter cable necessary to minimize EMI radiation.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Baker (US 5,815,735), and Yang et al. (US 6,606,088 B1).

Correspondence

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yean-Hsi Chang whose telephone number is (571) 272-


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2038. The examiner can normally be reached on 07:30 - 16:00, Monday through thursday.

If attempts to reach the examiner by telephone are unsuccessful, the Art Unit phone number is (571) 272-2800, ext. 35. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-8558.

Yean-Hsi Chang
Primary Examiner
Art Unit: 2835
November 30, 2005



YEAN-HSI CHANG
PRIMARY EXAMINER